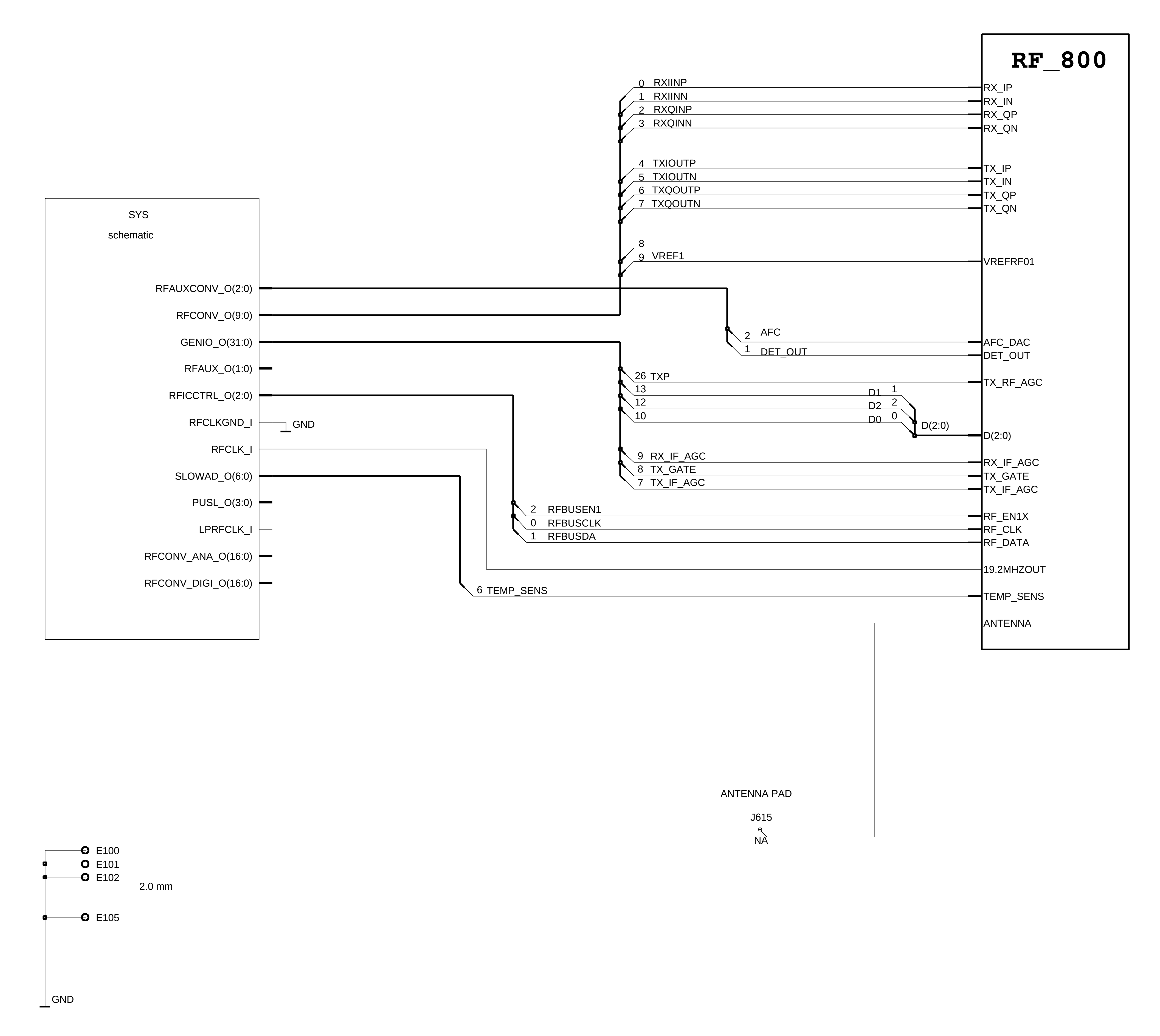
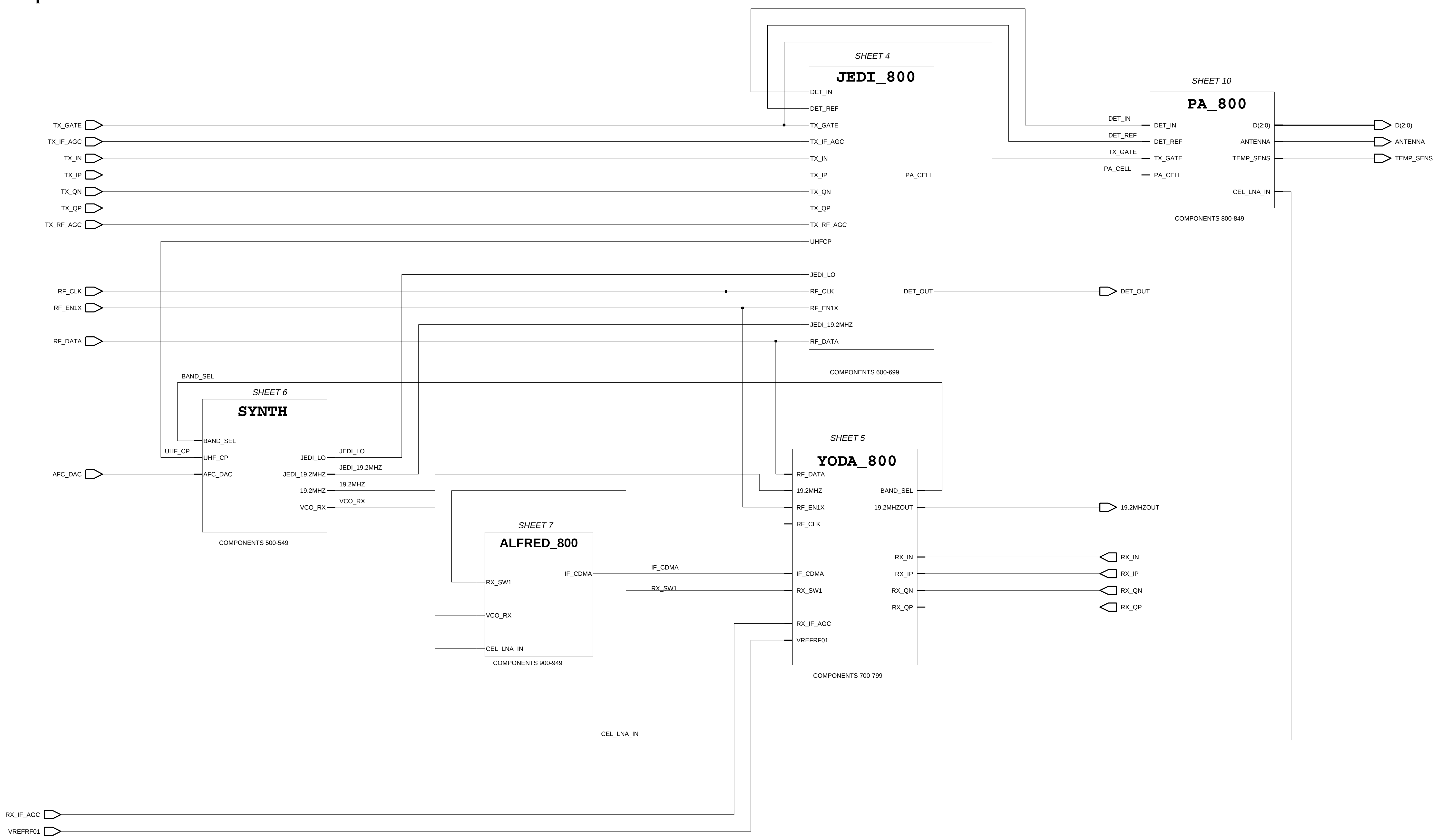
3125 (RH-61) Schematics and Layouts

Top-Level Diagram



RF Top Level


SHEET 4
JEDI_800
DET_IN
DET_REF
TX_GATE
TX_IF_AGC
TX_IN
TX_IP
TX_QN
TX_QP
TX_RF_AGC
UHFCP
JEDI_LO
RF_CLK
RF_EN1X
JEDI_19.2MHZ
RF_DATA
PA_CELL
DET_OUT
COMPONENTS 600-699
SHEET 10
PA_800
DET_IN
DET_REF
TX_GATE
PA_CELL
D(2:0)
ANTENNA
TEMP_SENS
CEL_LNA_IN
COMPONENTS 800-849
AFC_DAC
BAND_SEL
UHF_CP
SHEET 6
SYNTH
JEDI_LO
JEDI_19.2MHZ
19.2MHZ
VCO_RX
COMPONENTS 500-549
SHEET 7
ALFRED_800
RX_SW1
VCO_RX
CEL_LNA_IN
IF_CDMA
COMPONENTS 900-949
SHEET 5
YODA_800
RF_DATA
19.2MHZ
RF_EN1X
RF_CLK
IF_CDMA
RX_SW1
RX_IF_AGC
VREFRF01
BAND_SEL
19.2MHZOUT
RX_IN
RX_IP
RX_QN
RX_QP
COMPONENTS 700-799
RX_IF_AGC
VREFRF01

PA

AMPS Mode
CELL
X801
Low Tx Power
High Tx Power
VR2
N805
STPAC01F2
C3 RFIn VTemp A2
C2 Gnd1 DCout A3
C1 Bias B1 Gnd2
B3 Gnd1 B2 Gnd1
L803
GND
C811 1p0
L806 33nH
GND
GND
C803 100n
C807 33n
GND GND
In C In R
GND
C809
ANTENNA
L802 68nH
L804 68nH NA
L805 68nH NA
GND GND GND
DET_IN
DET_REF

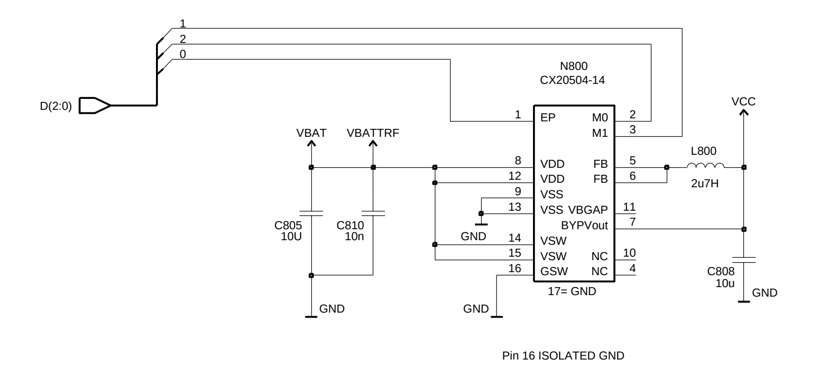
ORCA

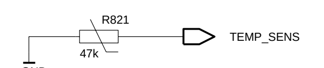
CELLULAR

R814 2k7
Z802
1 6
IN ESI-5BBR0836M01-T OUT
Z803 ANT
TX DUPLEX FILTER RX
GNDPINS= GND
CEL_LNA_IN

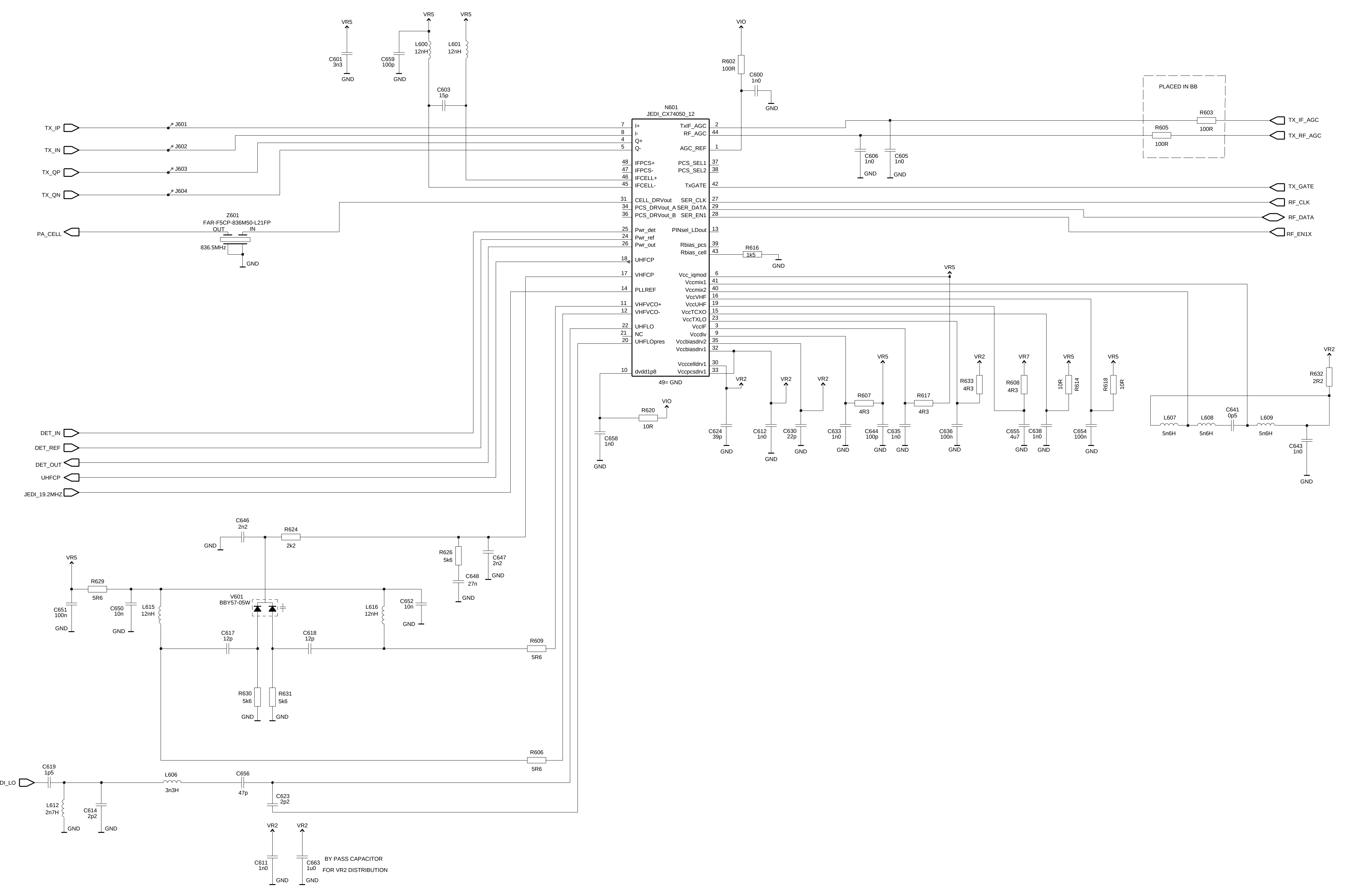
N803
CX77145-13
PA_CELL
2 RFin RFout 8
Vbias 4
1 Vcc1
10 Vcc2 Vref 5
3,6,7,9,11= GND
VBAT
C816 10n
GND
VCC
VCC
C806 10u
GND
C813 470p
C802 150p
GND GND

N804
UMD3NTR
VR1A
3 4
2 5
1 6
GND
C814 1n0
GND
TX_GATE

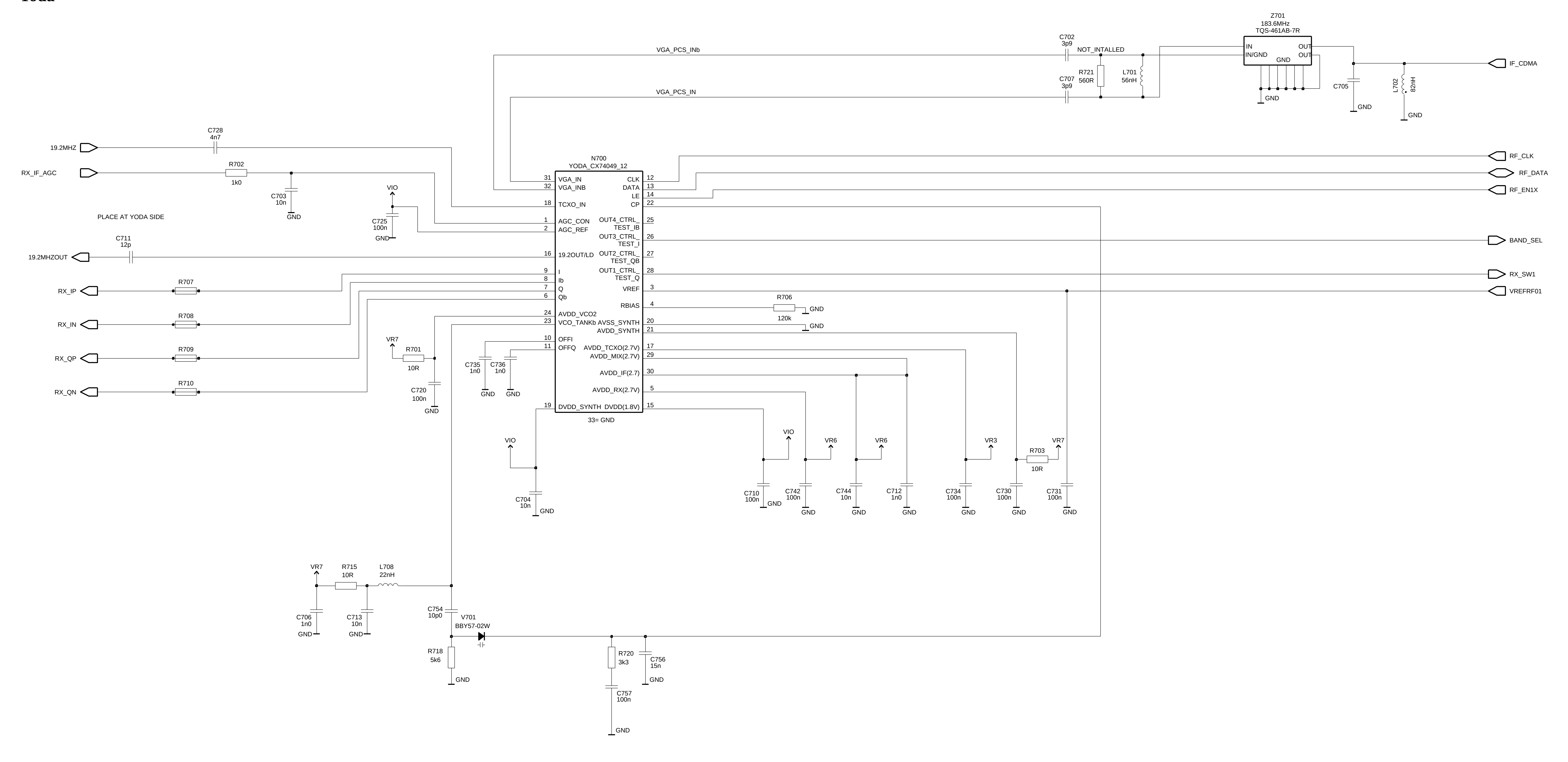




Jedi

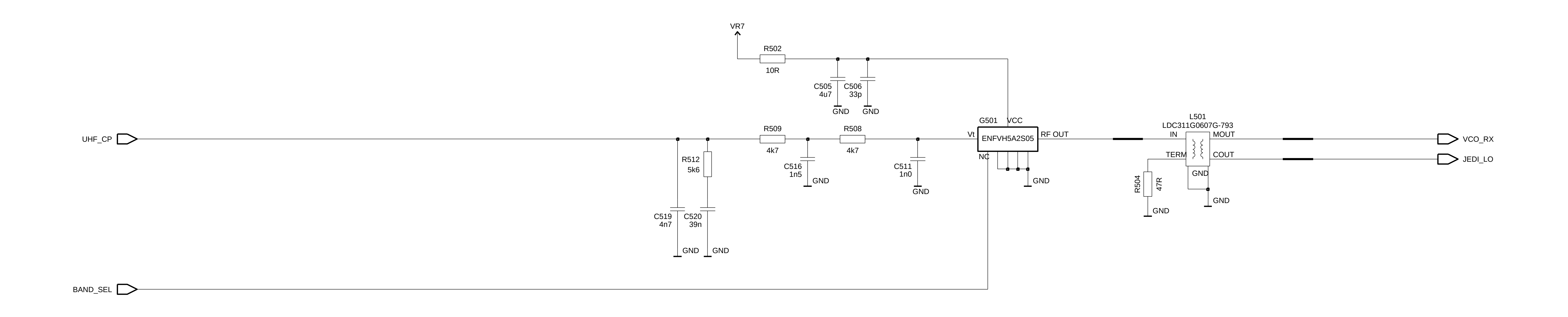


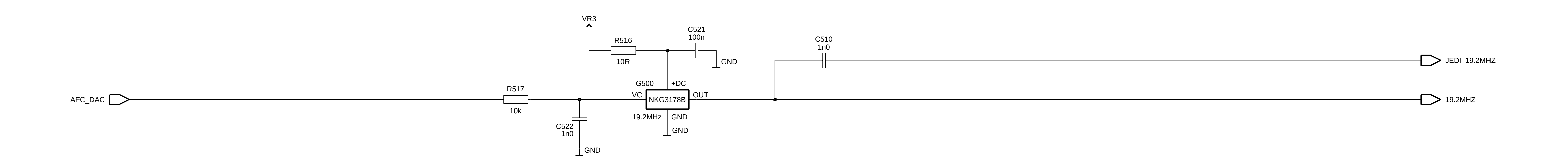
Yoda



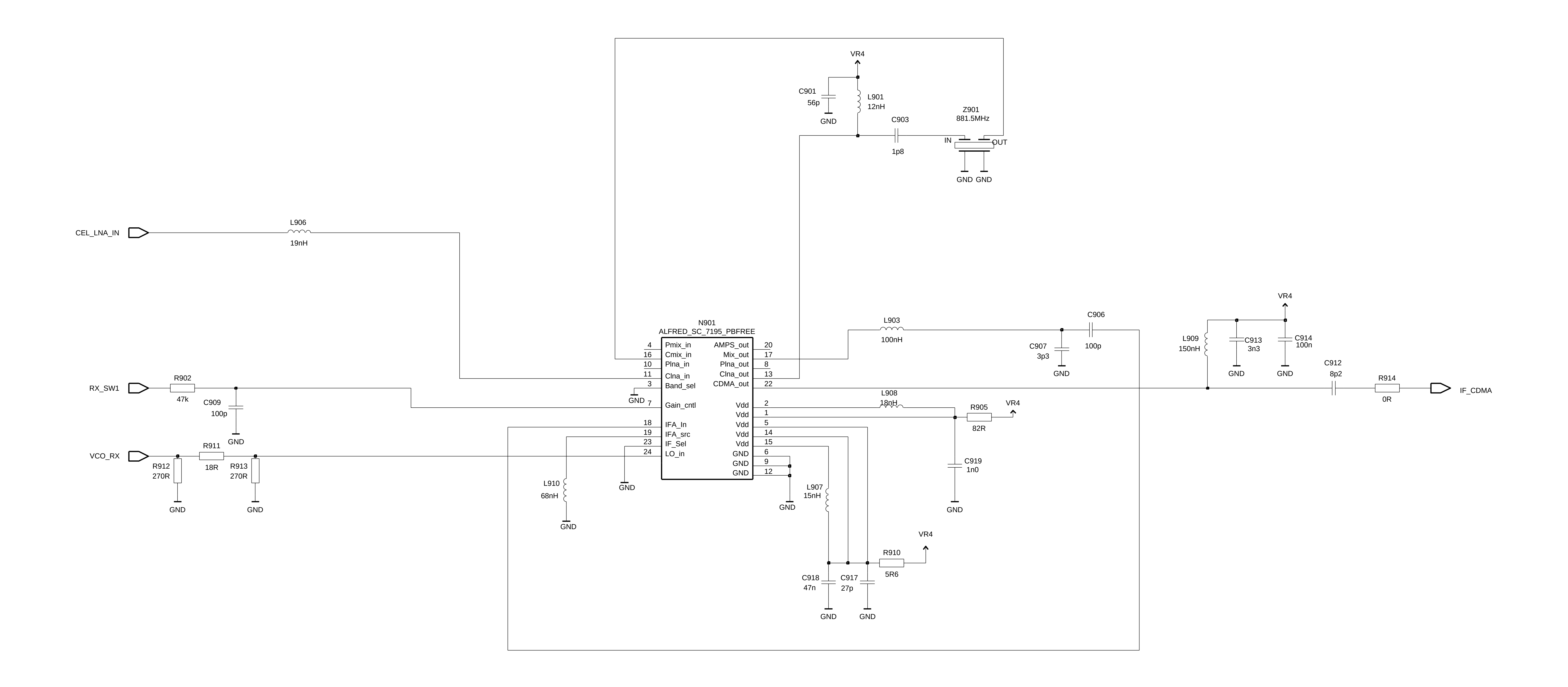
N700
YODA_CX74049_12
Z701
183.6MHz
TQS-461AB-7R
VGA_PCS_INb
VGA_PCS_IN
NOT_INTALLED
19.2MHZ
RX_IF_AGC
PLACE AT YODA SIDE
19.2MHZOUT
RX_IP
RX_IN
RX_QP
RX_QN
IF_CDMA
RF_CLK
RF_DATA
RF_EN1X
BAND_SEL
RX_SW1
VREFRF01
33= GND

Synthesizer



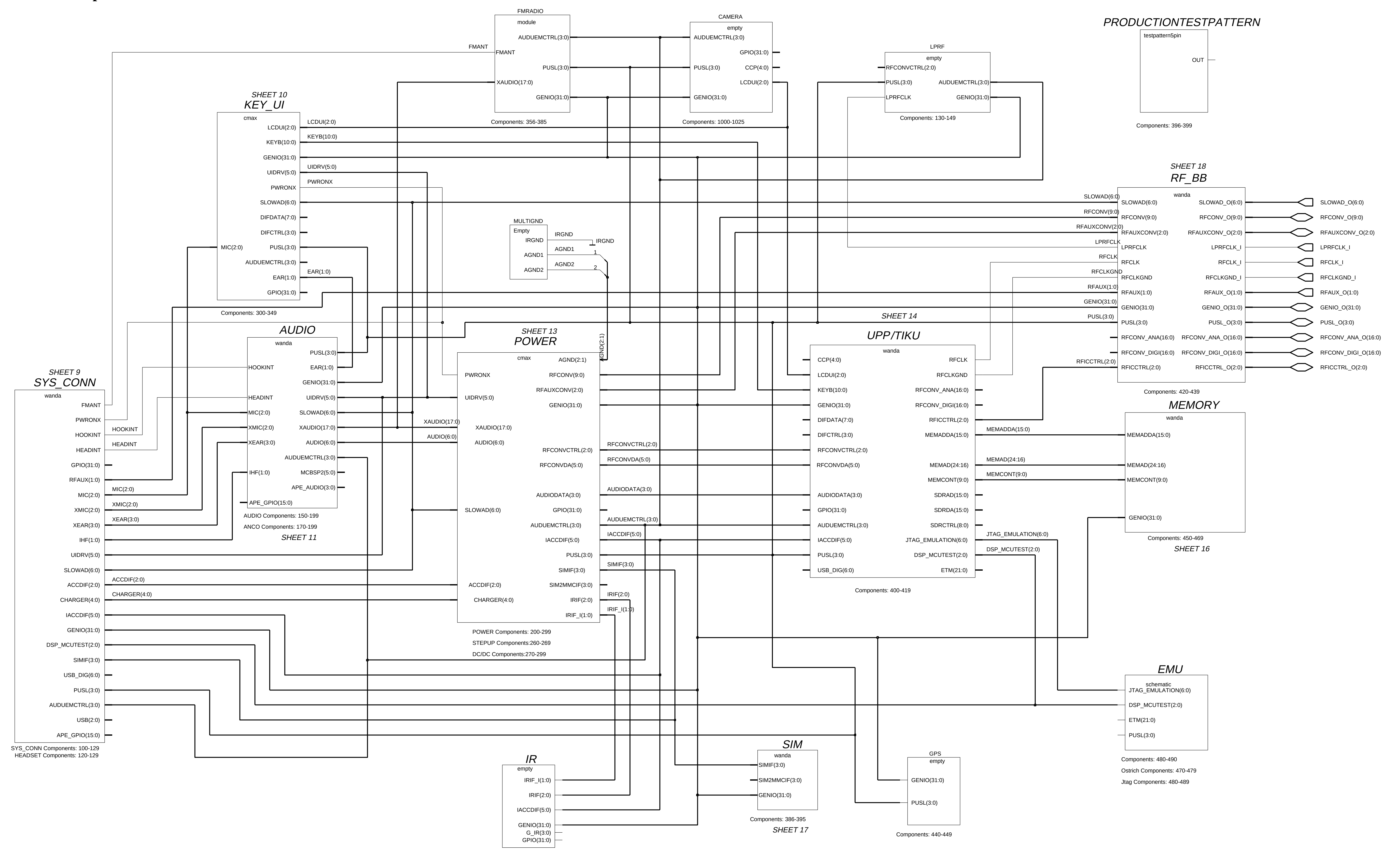


Alfred

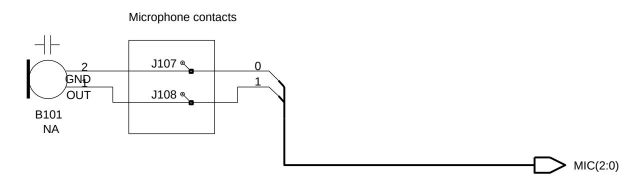


VR4
C901
56p
GND
L901
12nH
C903
1p8
Z901
881.5MHz
IN
OUT
GND GND
CEL_LNA_IN
L906
19nH
N901
ALFRED_SC_7195_PBFREE
4 Pmix_in
16 Cmix_in
10 Plna_in
11 Clna_in
3 Band_sel
7 Gain_cntl
18 IFA_In
19 IFA_src
23 IF_Sel
24 LO_in
AMPS_out 20
Mix_out 17
Plna_out 8
Clna_out 13
CDMA_out 22
Vdd 2
Vdd 1
Vdd 5
Vdd 14
Vdd 15
GND 6
GND 9
GND 12
L903
100nH
C906
100p
C907
3p3
VR4
L909
150nH
C913
3n3
C914
100n
C912
8p2
R914
0R
IF_CDMA
RX_SW1
R902
47k
C909
100p
GND
L908
18nH
R905
82R
C919
1n0
VCO_RX
R911
18R
R912
270R
R913
270R
L910
68nH
L907
15nH
R910
5R6
C918
47n
C917
27p

Baseband Top Level



System Connector



User Interface

SLOWAD(6:0)
MIC(2:0)
PUSL(3:0)
AUDUEMCTRL(3:0)
GPIO(31:0)

LCD Connector
X302
VLED+
VIO
VFLASH1
J302 J314 J315
C300 100n
C301 100n
J308 J309 J310 J311
R308 68R
R309 220R
R310 220R
C306 47p
C309 47p
GENIO(31:0)
LCDUI(2:0)

Left S310 NA
Send S311 NA
End S312 NA
Right S313 NA
Soft left S314 NA
Up S315 NA
Down S316 NA
Soft right S317 NA
1 S318 NA
4 S319 NA
7 S320 NA
* S321 NA
2 S322 NA
5 S323 NA
8 S324 NA
0 S325 NA
These have different geometry
3 S326 NA
6 S327 NA
9 S328 NA
S329 NA
ROW5 ROW0 COL0 ROW1 ROW2 ROW3 ROW4 COL1
J334 J335
COL2 COL3 COL4 COL5

Z300
EMIF10-1K010F2
DIFDATA(7:0)
DIFCTRL(3:0)
KEYB(10:0)

R317
ESDA14V2-4BF2
J325 J331 J320 J321 J322 J323 J324 J337 J326 J327 J328 J329
J301

B301
IHF_P
IHF_N
NA

WHITE LED'S
R315 33R
PUMT1 V317
R316 68R
R301 68R
R303 68R
PUMT1 V318
PUMT1 V319
V313 V314 V307 V308 V309 V312
R321 3k3

UIDRV(5:0)
KLIGHT
DLIGHT
VIBRA
BUZZER
J336
J303
J304

N302
TK65600B-G
EN VOUT IND VDD FB AGND NC PGND
C304 1u0
R302 22k
R300 1k3

"PWR SWITCH"
PWRONX
R306 4k7
C310 10n
S302
READ COMPONENT INFO!

Vibra Motor
M300 NA
4CR-1002W-07
VBAT

L301 42R/100MHz
L300 22uH
C303 100n
C316 1u0

EAR(1:0)
J312
J313
B300
NA

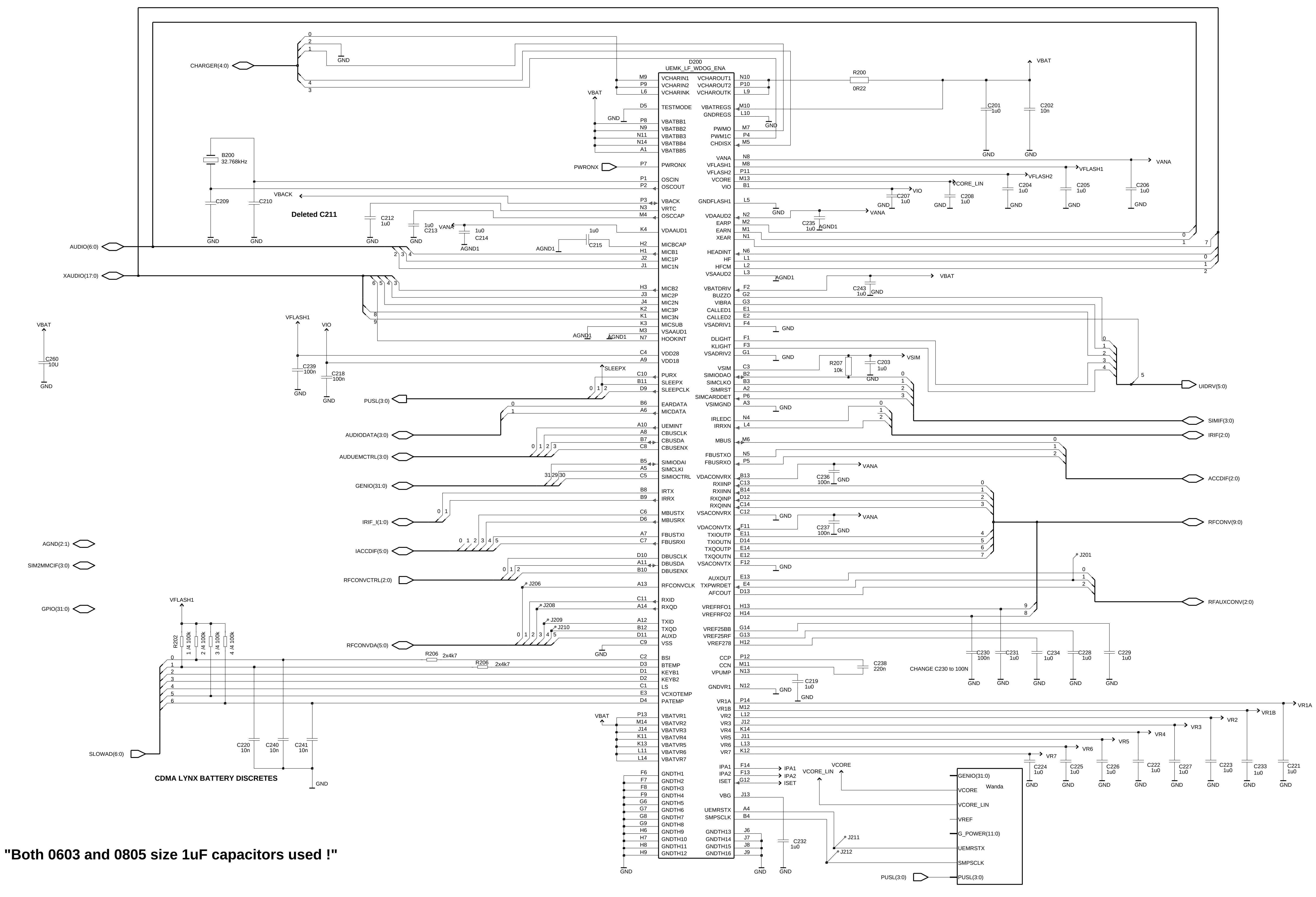
Audio

"EARP"
"EARN"
"MICB1"
"MIC1P"
"MIC1N"
R178 5R6
R177 5R6
R170 1 /2 1k0 2x1k0
R172 1 /2 1k0 2x1k0
R172 2 /2 1k0 2x1k0
C169 100n
C172 100n
R171 1 /2 1k0 2x1k0
R171 2 /2 1k0 2x1k0
R173 47k
C171 47p
C180 100n
R170 2 /2 1k0 2x1k0
C178 39p
C179 39p
AGND1
IHF(1:0)
AUDIO(6:0)
EAR(1:0)
R179 /2 VWM16V ?
GND
Place at B300
MIC(2:0)
MIC(1)
MIC(0)
AUDUEMCTRL(3:0)
UIDRV(5:0)
HOOKINT
PUSL(3:0)
SLOWAD(6:0)
APE_AUDIO(3:0)
APE_GPIO(15:0)
MCBSP2(5:0)

HEADINT
"HOOKINT"
HOOKINT
"MICB2"
"MIC2P"
"MIC2N"
R151 1 /2 1k0
R151 2 /2 1k0
C152 39p
C156 39p
R155 47k
C151 100n
C154 100n
R152 1 /2 1k0
R152 2 /2 1k0
C153 47p
R150 1 /2 1k0 2x1k0
C181 100n
R150 2 /2 1k0 2x1k0
"XMICP"
"XMICN"
XMIC(2:0)
"HFCM"
"HF"
R168 5R6
R167 5R6
"XEARN"
"XEARP"
XEAR(3:0)
XAUDIO(17:0)

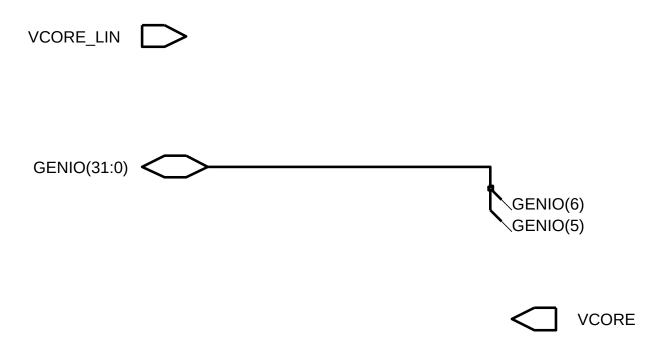
GENIO(31:0)
28
R154 470R
C165
C155 22n
C164 2n2
C166 22n
R156 180k
R157 5k6
C167 1u0
IHF
AUDIO AMPLIFIER
B1,B2= AGND1
B3= VBAT
-IN +IN Vo2 Vo1
_Shutdown
Bypass
LM4890ITLXNOPB
N150
EDMS USE 4341429
Capacitors should be placed near
N150, Audio Amplifier, and connected
to VBAT & GND pins.
VBAT
C174 100n
C175 1u0
C177 22p
SMART
L150 240R/100MHz
L151 240R/100MHz
SPEAKER IS ON UI SHEET
IHF_P
IHF_N
IHF speaker connection
J305 J305_B
J306 J306_B
514B011

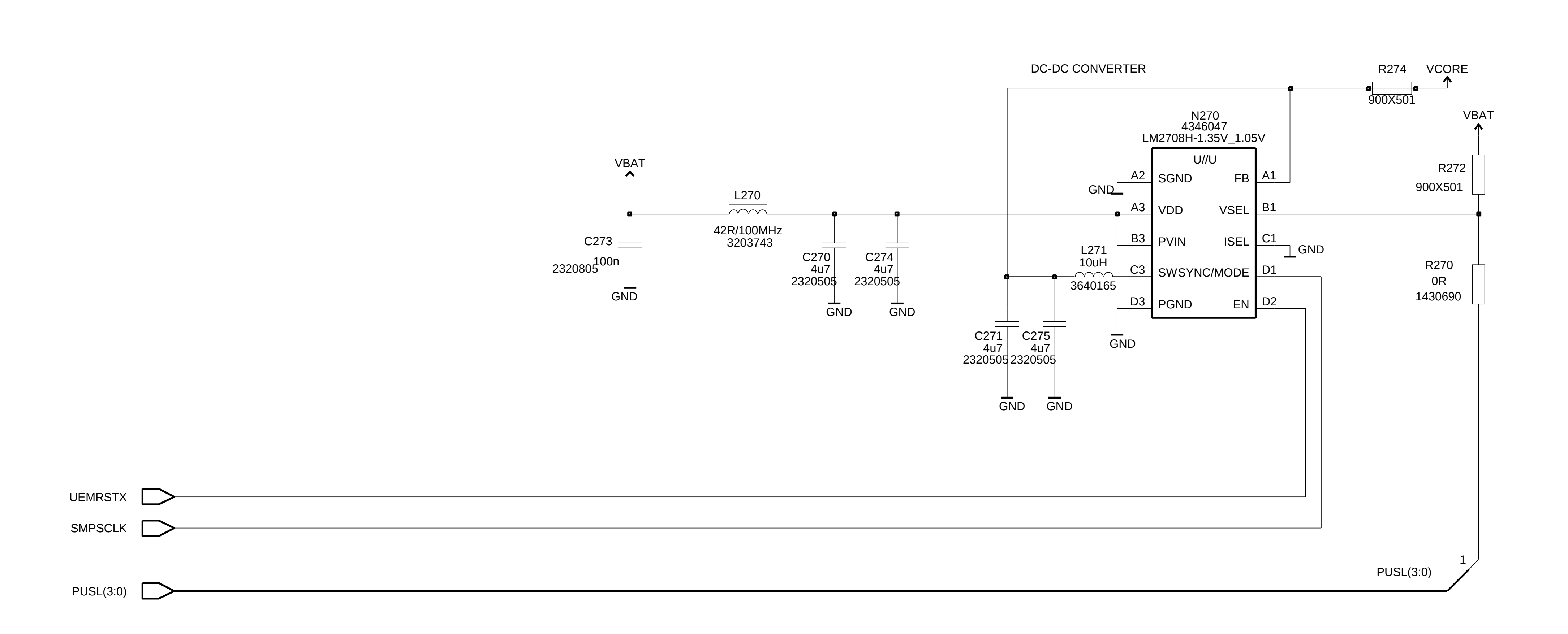
UEM



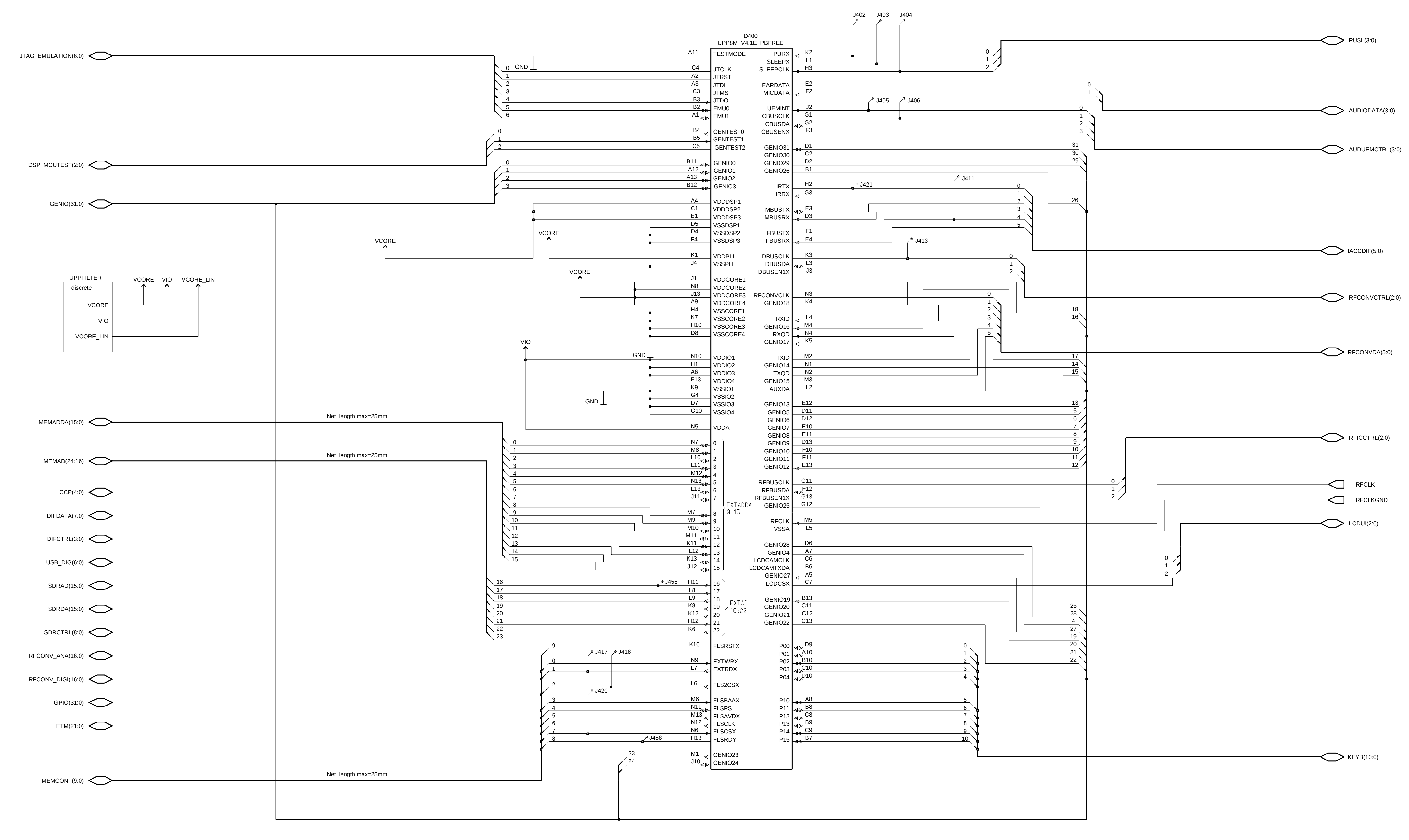
D200
UEMK_LF_WDOG_ENA
CHARGER(4:0)
AUDIO(6:0)
XAUDIO(17:0)
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
GENIO(31:0)
IRIF_I(1:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
AGND(2:1)
SIM2MMCIF(3:0)
GPIO(31:0)
SLOWAD(6:0)
UIDRV(5:0)
SIMIF(3:0)
IRIF(2:0)
ACCDIF(2:0)
RFCONV(9:0)
RFAUXCONV(2:0)
B200
32.768kHz
R200
0R22
VBAT
VANA
VFLASH1
VFLASH2
VCORE_LIN
VIO
VSIM
VBACK
Deleted C211
CDMA LYNX BATTERY DISCRETES
CHANGE C230 to 100N
Wanda
GENIO(31:0)
VCORE
VCORE_LIN
VREF
G_POWER(11:0)
UEMRSTX
SMPSCLK
PUSL(3:0)
"Both 0603 and 0805 size 1uF capacitors used !"

DC/DC Converter

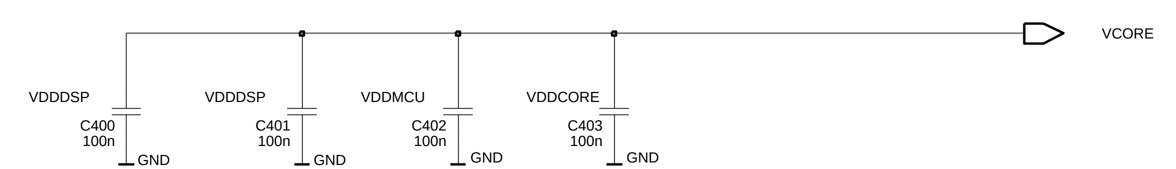




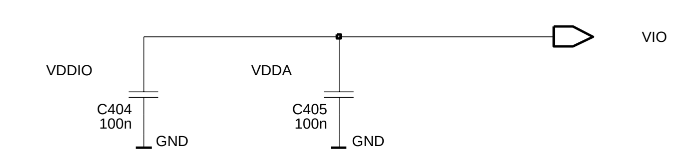
UPP


D400
UPP8M_V4.1E_PBFREE
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
GENIO(31:0)
UPPFILTER
discrete
VCORE
VIO
VCORE_LIN
GND
MEMADDA(15:0)
MEMAD(24:16)
CCP(4:0)
DIFDATA(7:0)
DIFCTRL(3:0)
USB_DIG(6:0)
SDRAD(15:0)
SDRDA(15:0)
SDRCTRL(8:0)
RFCONV_ANA(16:0)
RFCONV_DIGI(16:0)
GPIO(31:0)
ETM(21:0)
MEMCONT(9:0)
Net_length max=25mm
TESTMODE
JTCLK
JTRST
JTDI
JTMS
JTDO
EMU0
EMU1
GENTEST0
GENTEST1
GENTEST2
GENIO0
GENIO1
GENIO2
GENIO3
VDDDSP1
VDDDSP2
VDDDSP3
VSSDSP1
VSSDSP2
VSSDSP3
VDDPLL
VSSPLL
VDDCORE1
VDDCORE2
VDDCORE3
VDDCORE4
VSSCORE1
VSSCORE2
VSSCORE3
VSSCORE4
VDDIO1
VDDIO2
VDDIO3
VDDIO4
VSSIO1
VSSIO2
VSSIO3
VSSIO4
VDDA
EXTADDA 0:15
EXTAD 16:22
FLSRSTX
EXTWRX
EXTRDX
FLS2CSX
FLSBAAX
FLSPS
FLSAVDX
FLSCLK
FLSCSX
FLSRDY
GENIO23
GENIO24
PURX
SLEEPX
SLEEPCLK
EARDATA
MICDATA
UEMINT
CBUSCLK
CBUSDA
CBUSENX
GENIO31
GENIO30
GENIO29
GENIO26
IRTX
IRRX
MBUSTX
MBUSRX
FBUSTX
FBUSRX
DBUSCLK
DBUSDA
DBUSEN1X
RFCONVCLK
GENIO18
RXID
GENIO16
RXQD
GENIO17
TXID
GENIO14
TXQD
GENIO15
AUXDA
GENIO13
GENIO5
GENIO6
GENIO7
GENIO8
GENIO9
GENIO10
GENIO11
GENIO12
RFBUSCLK
RFBUSDA
RFBUSEN1X
GENIO25
RFCLK
VSSA
GENIO28
GENIO4
LCDCAMCLK
LCDCAMTXDA
GENIO27
LCDCSX
GENIO19
GENIO20
GENIO21
GENIO22
P00
P01
P02
P03
P04
P10
P11
P12
P13
P14
P15
J402
J403
J404
J405
J406
J411
J413
J417
J418
J420
J421
J455
J458
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
RFICCTRL(2:0)
RFCLK
RFCLKGND
LCDUI(2:0)
KEYB(10:0)

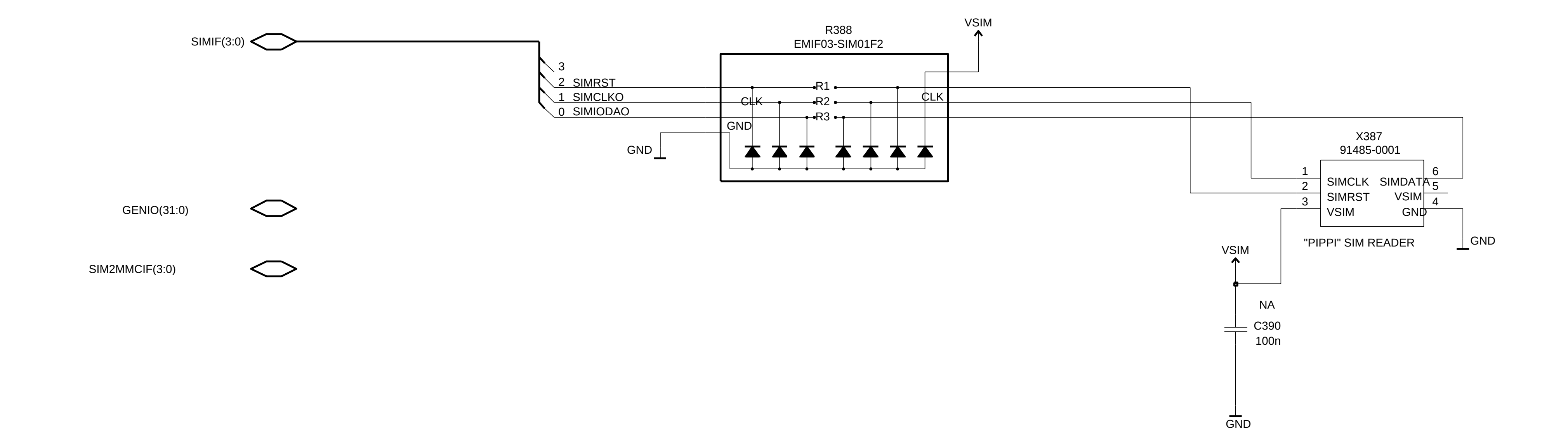
UPP Filter



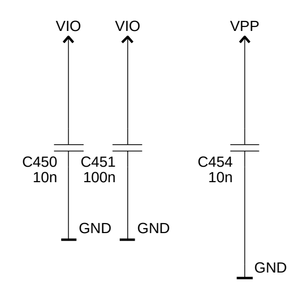


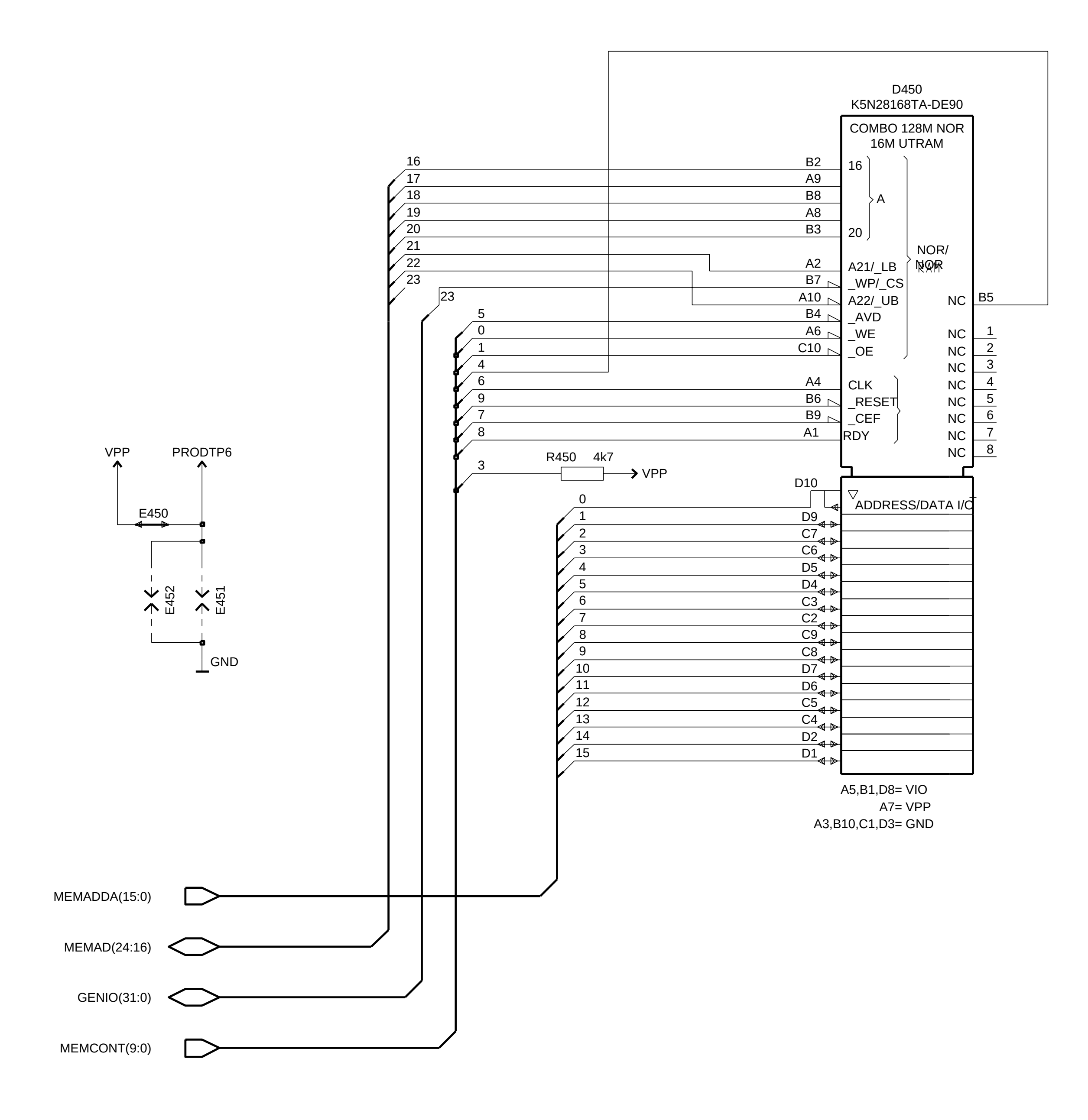


RUIM Reader

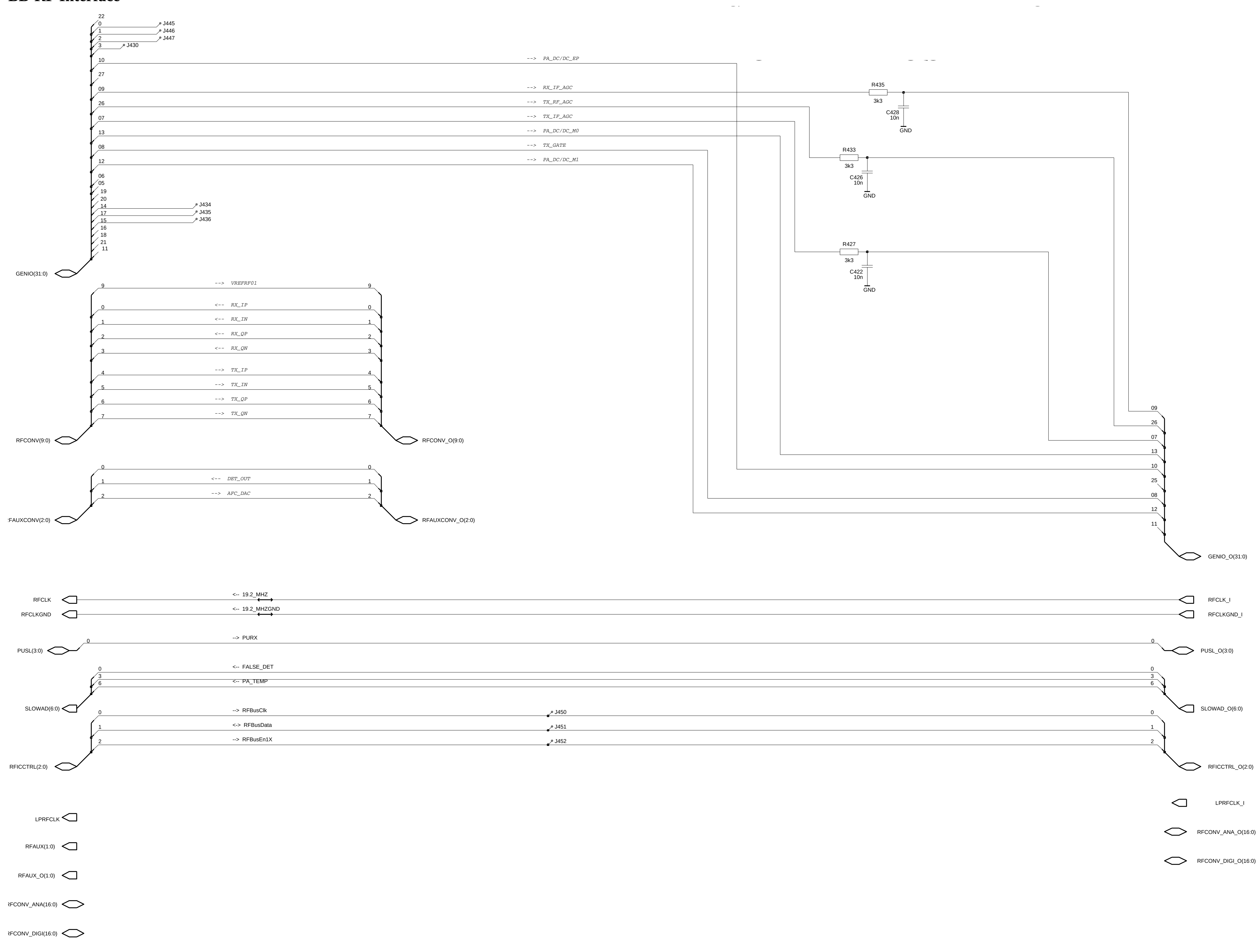


Combo Memory 128+8 Mbit

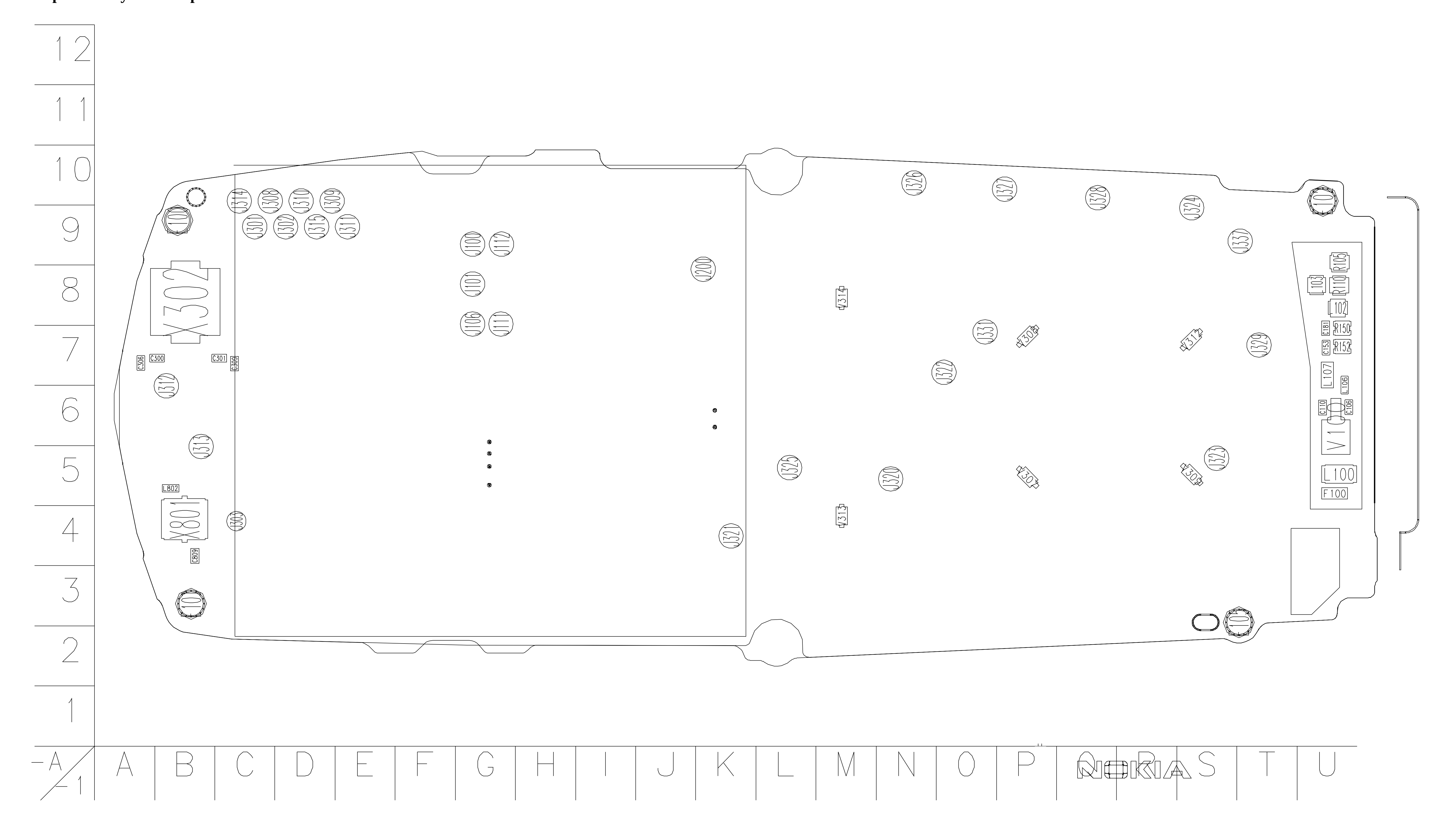




BB-RF Interface



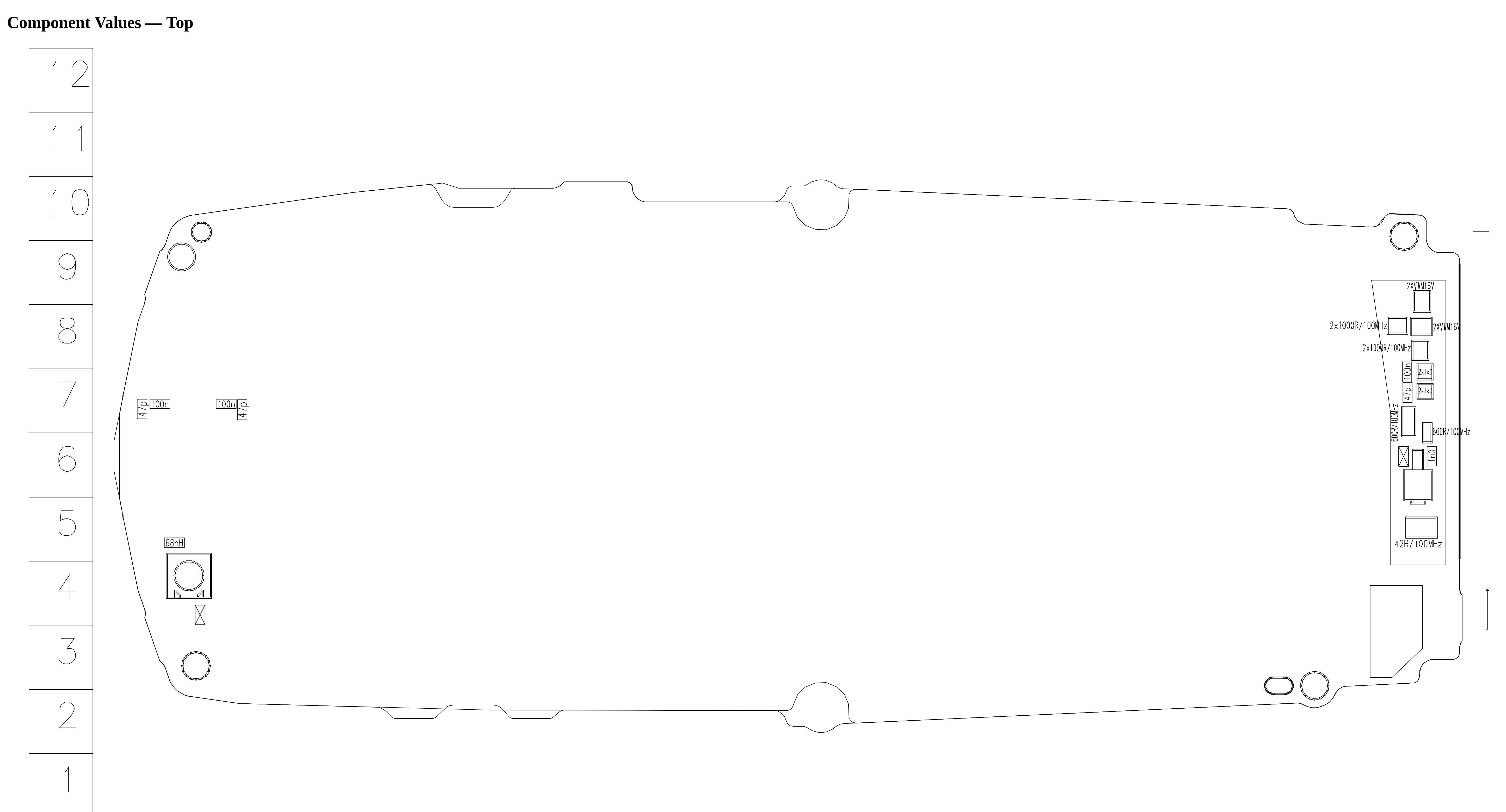
Component Layout — Top



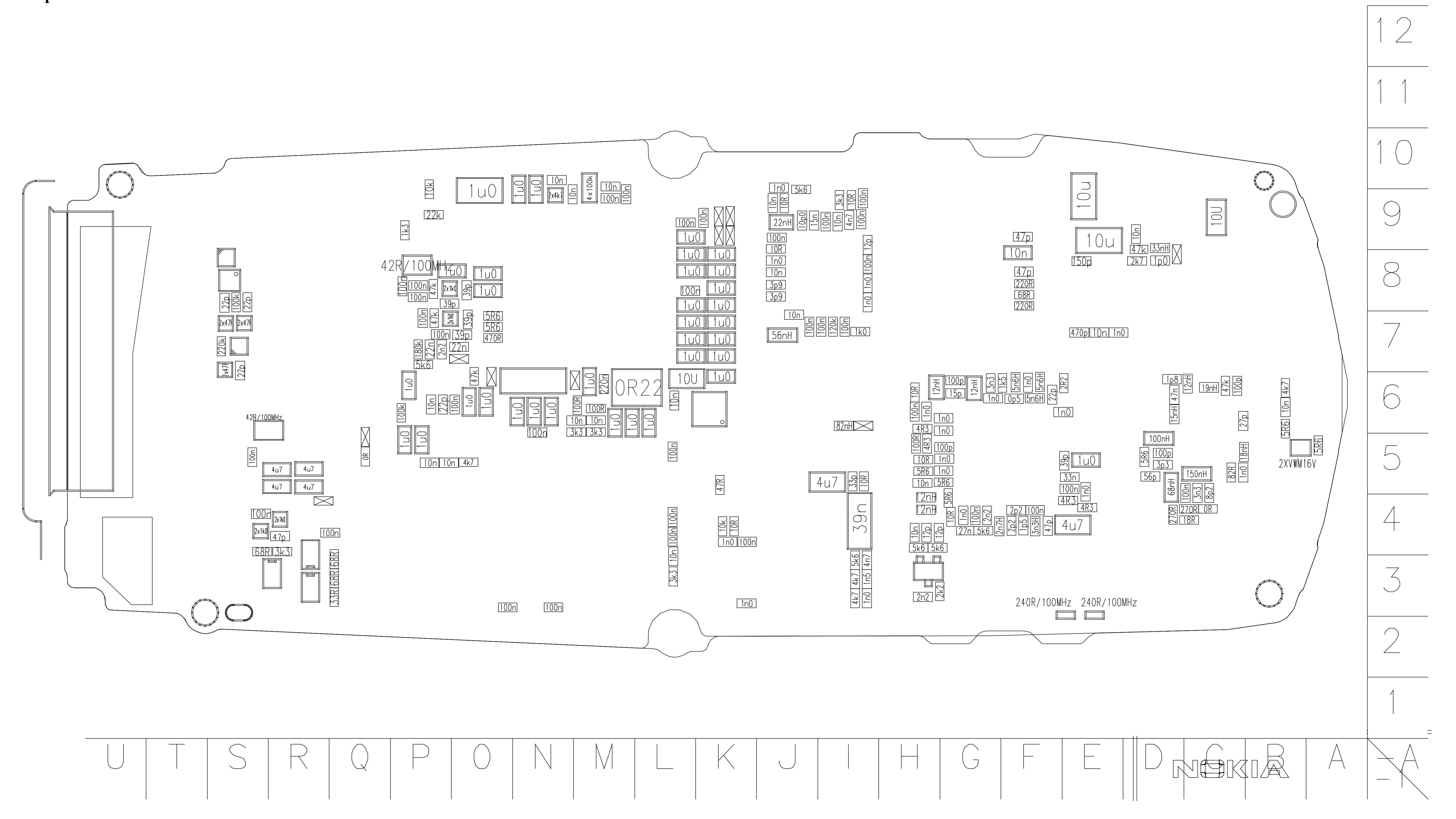
Component Layout — Bottom



Component Values — Top



Component Values — Bottom



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